STATE OF VERMONT PUBLIC SERVICE BOARD

<u>PSB Rule 5.700</u>

May 4, 2017 7 p.m.

5 High School Drive Montpelier, Vermont

Public Hearing held before the Vermont Public Service Board, at the Montpelier High School, 5 High School Drive, Montpelier, Vermont, on May 5, 2017, beginning at 7 p.m.

PRESENT

BOARD MEMBERS: James Volz, Chairman

Margaret Cheney Sarah Hofmann

STAFF: Kevin Fink

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CHAIRMAN VOLZ: Good evening everyone.

Thank you for coming out tonight. We're here this evening for a public hearing as part of the Public Service Board's rulemaking process for a rule regulating sound for wind electric generation facilities, and that was pursuant to Section 12A of Act 174. My name is Jim Volz. I'm the Chair of the Public Service Board. With me tonight is Margaret Cheney to my right.

AUDIENCE: We can't hear you.

CHAIRMAN VOLZ: They are trying to fix it. The purpose of tonight's hearing is to provide an opportunity for the Public Service Board to hear input from members of the public concerning this rule about sound from wind facilities. I want to be clear the rule applies to future wind projects not to existing ones.

So that tonight's hearing will be transcribed by a court reporter. She is down front. We'll hear from people who want to speak. If you wanted to speak, you need to sign up. We've already got around 40 people who have signed up and there's a sign-up sheet down front. The way this will work is I'll call the names on the list that I have, and if you would come up to the microphone and speak to us

about whatever comments you want to make about the rule. I'll call three names to start and if the three names I call will get ready so that we can do this more quickly. With 40 -- over 40 people signing up if I give each person three minutes, that's over two hours. So that's what I'm going to have to do limit the time period to three hours. You can also submit anything you want in writing to us through our web site or you can e-mail us and that information is on our web site as well.

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BOARD MEMBER HOFMANN: The only thing I would ask is if you have spoken at one of the other ones, you know we've been in Bennington and Lowell, if you have spoken at one of those, please we're going to ask you to speak last tonight so people who haven't had a chance to speak get to speak first and then we'll try to get through other people who have signed up. So if we come to you, you have already spoken once at an event please pass. We'll try to get back to you if we have enough time.

BOARD MEMBER CHENEY: I might add also if you have more than three minutes worth of things to say, please you could also submit your comments in writing and then the deadline for written comments is May 11th either by regular mail or by e-mail to the

Public Service Board.

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CHAIRMAN VOLZ: And the public hearings we've already had have been transcribed just like this one is, we will read all those comments. So if you have already commented, we've already heard you so there's no need to repeat it tonight. Okay. So with that I think maybe we can get started. The first -- I'll call three names. Get ready to come up to the microphone. First person is Justin Lindholm. Then Bill Dunkel and then Liisa Kissel. Why don't you go ahead and if you would identify your name and spell your last name for the court reporter if it's not obvious.

MR. LINDHOLM: Okay. Justin Lindholm L-I-N-D-H-O-L-M and I'll be the sound guinea pig. Can everybody hear? I have a pretty booming voice anyway. Vermont has always done things the Vermont way. We've always lifted the little guy up with everybody else when we do something that is a big project, good for society. We've never lost track of the little guy. This is something that we've done. It was taught to me in first grade when the teacher told me that she said the wind and the sun saw this little kid down below, and the wind said I can blow the jacket off that little kid, and he blew and blew

and blew and the kid just made the jacket tighter and the sun took over and did a nice job of shining on him and he took the jacket off.

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We can do the same thing here. European standards -- Europe is way ahead of us on renewable They have decent standards now. They have really done this a lot longer than we have and what we're calling for here is European standards, and there is -- this is the way to go. We have a lot of people in this country don't understand what we need to do to get to our 90 percent. David Blittersdorf I recorded him saying it and so did Art Wolff in the Burlington Free Press 90 percent means we basically got to get off jet airplanes. We need to move to little apartments, but we're not going to suffer like that to get to 90 percent. Why should we require the little people to suffer. You know these little people should be compensated, and if we don't build wind turbines, we actually will build wind turbines if you compensate these little people. They will say okay the sound levels are going to be too high for that person over there and this person over there. Then the wind turbine industry can negotiate with these people if we have the standards proper. they can say okay I will accept a higher standard

where my house is if I'm being compensated. There's nothing wrong with that.

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National Public Radio today at 2 o'clock was talking about national parks, the sound levels are getting two and more times higher than the background noise which is affecting animal life. That was pretty neat that this came on National Public Radio at 2 o'clock today. So what we need to do is to be very careful with the little person. The little person needs to be lifted up with the rest of us when we do any project. That's the Vermont way. Thank you.

CHAIRMAN VOLZ: Thank you. Bill Dunkel, and if Liisa Kissel can get ready. Thank you.

MR. DUNKEL: Good evening. My name is
Bill Dunkel D-U-N-K-E-L. I live in the Town of
Windham where I serve on the Planning Commission and
the Energy Committee and am one of our two appointed
representatives to the Windham Regional Commission.
I've lived in Vermont a long time. When I first
moved to Windham about three years ago and became
aware of the turbine proposal my initial reaction was
it probably would be a good idea. I consider myself
an environmentalist. I'm worried about climate
change. So I thought it might make sense to do this.

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However, the more I studied the issue, the more I talked to people on both sides of the issue, the more concerned I became about the environmental damage that would be done by installing these massive machines. Wildlife habitat disturbance and so on. I became even more concerned about potential negative health impacts from audible and inaudible sound. I read a lot of studies, I'm sure you have read those too, about people suffering from headaches and nausea and sleeplessness and so on. when I heard that this Public Service Board is considering much stricter sound standards I was elated, and I would strongly urge you for the sake of protecting public health to adopt the standard of a maximum threshold of 35 decibels day or night, not an average but a threshold, and also please consider a setback of at least 10 times the height -- maximum height of the turbine. I think we need to protect people who might be living within a mile of the wind There were nearly a hundred homes in Windham that would have been less than a mile from a turbine had that project gone through, and I think in order to protect public health we need a strict standard that's strictly enforced and I would urge you to resist the pressure. I'm sure you will get to weaken that standard.

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Last point I would like to make please is that every person I know in Windham who opposed the wind turbines believes sincerely that climate change is a problem and is worried about it and concerned about it. We think there are other ways to deal with this, especially by conservation of energy and properly scaled and properly sited green energy, primarily solar, but also other forms of green energy, but massive turbines are not the way to go. If it happens, I hope it will protect us and I think this is in line with Vermont's values more than anything else. Thank you for hearing me.

CHAIRMAN VOLZ: Thank you. Liisa Kissel and Steve Thurston. Go ahead. Ready? He says give my time to the next person. So Monique Thurston.

MS. KISSEL: My name is Liisa Kissel.

It's spelled L-I-I-S-A K-I-S-S-E-L and I live in

Grafton, Vermont. The sound standard must be lowered

for two reasons. First, to protect Vermonters from

more harm being inflicted on them. Vermont families

have served as collateral damage in the pursuit of

big wind. The Sheffield, Lowell, and Georgia

Mountain wind projects have left people suffering

lodging complaints without relief and in some cases

abandoning or selling their homes. Vermont must not allow more families to suffer.

The second reason is directly related to the first; to ensure the success of Vermont's renewable energy goals. How likely are Vermonters to want more big wind knowing about the harm it has caused. Like most of my neighbors I was all in favor of renewable energy and still am, but when a large project was proposed in my town I started doing research. I found out about the Therriens, the Nelsons, the Brouhas, the McLanes, and others who suffered from the noise from the wind project.

In the end Grafton and Windham overwhelmingly voted down the wind project. We did not want our neighbors to become the next Therriens, Nelsons, Brouhas, or McLanes. Vermont will have a hard time meeting its highly ambitious renewable energy goals if more citizens and towns are sacrificed and more people are harmed by harmful projects. Please establish sensible safe sound standards that people can support and live with. 35 dBA maximum is the right standard in our quiet natural place and that must be measured from the property line not from the residence. Let Vermont set an example of protecting its citizens and its

environment while doing its part in renewable energy.

Thank you.

CHAIRMAN VOLZ: Thank you. Next we would like to hear from Monique Thurston, and if Suzanne Seymour can get ready.

MS. THURSTON: So if I can have my husband's time, I have an accent so I have to speak slowly.

CHAIRMAN VOLZ: Sure.

MS. THURSTON: Thank you very much. My name is Monique Thurston. I'm a retired doctor residing in Ferrisburg. In 2009 in Maine I co-founded a group Citizens of Wind Power, and in 2011 we successfully petitioned the State of Maine to adopt new noise standards which recognized wind turbine noise is unique and requires specific regulation not applicable to other type of industrial community noise.

Of interest when I testified in 2011 the wind industry did not reject our suggestion, but was mostly concerned about their profit margin and the investors. As a member of a profession whose purpose is to improve lives I cringe at what I have seen for eight years now the new concept in public health as it relates to individuals exposed to turbine noise.

This comes with diminished empathy which includes the dismissal of well established symptoms related to wind turbine noise and the imposition amazingly of a new concept of tolerable or reasonable annoyance.

Chronic sleep disturbance is a serious medical problem, but wind industry advocates consider sleep disturbance as an acceptable byproduct of the industry. Dismissing the importance of sleep disturbance is not practical and should not be supported by politicians or regulators. I am glad to choose health over profit.

The proposed rules here show responsibility and leadership from you. You have listened carefully to the complaints of Vermont residents. The opposition disagreed with the level of 35 dBA. I wonder why. With the proposed night nighttime limit of 35 dBA you accomplish three things. You validate a 2004 Peterson and Wayne study that showed that noise from wind turbines creates annoyance, a lower decible level than any other type of industrial noise, and the degree of annoyance increases more rapidly with wind turbine as the decible level is rising than it does with other industry noise.

Peterson Wayne demonstrate wind turbine

noise has unique characteristics. It's different than other noise and it's different from common household noise such as conversation, air conditioning system, a TV, and refrigerator. You also validate research concluding that 35 dBA nighttime dBA will be only sporadic or no complaint, and you validate Germany's current 35 dBA nighttime, a country that has a decade of wind power development. 35 dBA is not protective of the most sensitive, I'm one of them, but at least those will reflect increasing awareness of turbine noise in human health.

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There are several flaws in the law though. Elimination of interior bedroom 30 dBA limit. 30 dBA is essential to protect sleep as is recognized in the CPG of Vermont Wind project. It's reasonable to assume that sleeping with window open is a practice of many Vermonters. Act 174 stipulated that a new rule should not be less protective than the current rules. Your finding of fact in this rulemaking proceeding should clearly explain why eliminating the 30 dBA interior bedroom limit complains with the intent of the law. As I said before, wind project noise limit should be at a property line not a hundred feet of the residence.

In conclusion, wind turbine noise is a worldwide problem attracting the attention of the entire scientific community. More projects get built more people exposed more problem arise and modern science will be used to confirm symptoms experienced by the victim. This is a curse that keeps giving.

Magnetic resonance imaging, also called MRI, has become a tool of choice to demonstrate the organic nature of the symptom both in sleep deprivation and in the brain reaction of infrasound exposure. In my testimony I will give you the link to an article and I will just go three sentences from this article because it's very important.

A study was done a few months ago exposing patients to infrasound and recording the MRI pattern. That study is the first to demonstrate that infrasound near the hearing threshold may induce changes of neural activity across several brain regions some of which are known to be involved in the artery process while others are regarded as key players in emotional and ergonomic control. This finding does allow us to speculate on continuous exposure to subliminal infrasound could affect inference on the organism. Basically could harm you.

So you are correct to work at

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establishing rules on the side of the precautionary principal. The time is coming when the discrediting the victims of wind turbine noise will be seen as an archaic concept and denyers of wind turbine noise complaints will be challenged in a court of law with MRI as evidence. Thank you.

CHAIRMAN VOLZ: Thank you. We would also like to hear from Suzan Seymore, and if Steve Gorelick could get ready to come up.

MS. SEYMOUR: Hi. Suzan Seymour S-E-Y-M-O-U-R. I'm from Fairfield on Fairfield Pond. My thoughts are that tonight we're talking to the Public Service Board specifically and that you're listening to get to the level of what the greatest good is for Vermonters regarding industrial wind turbines. I mean that's my impression on being here tonight on my very busy life just like yours. been a greenie forever and I'm not talking about my vest. I've been concerned about the environment. I've given to Greenpeace, Defenders of the Wildlife. You know even last year I gave a third of my salary to Bernie Sanders. So I just want you to know that I think we're all on the same page here on doing what's best for our planet.

You can say that I really do care a lot

about my planet and the people that are inhabited in 1 2 Only recently I got word two years ago about 3 Swanton Wind coming to my sacred little place called Fairfield Pond where they are going to build 4 5 supposedly right across from the water from us, and 6 it was only then that I began to do research on how 7 turbines were manufactured. I actually had no idea. 8 To my surprise I learned that they are anything but 9 green, free, or clean which is surprising because I 10 gave a lot of money to VPIRG before that. If only they were. If only they were the things that would 11 12 save our planet, but alas they are not.

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Industrial wind turbines are just that. An industry to make money and not adjust. As I educated myself on all things wind turbines in the last two years, sleepless nights on the computer for many hours, I've taken wind turbine college. I've become educated on the fact that human beings are affected and inflicted by noise and infrasound. Is everyone? No. Are some people? Yes.

Vermonters, especially rural Vermonters, are becoming collateral damage for the greater good one might say. If one is concerned about combating climate change, and I'm sure everyone in this room would agree they are, an efficient means of using

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energy or using less energy or even eating less meat has been proven to reduce our carbon footprint. Who knew? I became a vegetarian after all this. I want small scale renewables in Vermont and I think most Vermonters would agree it makes sense for our terrain, it makes sense for our small state, it makes a lot of sense. So none of this is making sense to me.

In the south in Connecticut,

Massachusetts, Rhode Island I see the businesses with
their lights on all night long wasting electricity
and here we are about to destroy our precious
mountaintops all in the sake of more energy for
people to keep your lights on all night long, but in
the meantime sound standards that allow all
Vermonters to live and sleep in the state that they
love and cherish should be tantamount to your
decision as a Public Service Board. Please be
courageous leaders who choose people over profit and
save our mountains for they are surely our greatest
resource. I believe all Vermont lives matters and
hope you do too. Thank you.

CHAIRMAN VOLZ: Thank you. Steve Gorelick. Then if Rick could get ready to come up.

MR. GORELICK: Steve Gorelick

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G-O-R-E-L-I-C-K from Walden. I'm going to be reading some excerpts from the noise log of Shirley Nelson. Different excerpts than what were read in Lowell a couple nights ago. As you probably know the Nelsons live just under a mile from the nearest Lowell wind turbine. They were eventually forced to sell their home because it became unliveable. Green Mountain Power bought their home but imposed a gag order on preventing them from speaking about their health experiences and that's why Shirley is not here tonight. Most of what I read is from a period when the Nelsons had a noise monitor, a decible monitor, and if you note there are effects recorded when decible averages were in the 30's and 40's.

February 14, 2013 woke up twice during the night with a dull headache. 6:30 this morning got up because the back of my head aches and feels like a tight band around it. Need to finish a project today, but don't think I can if this doesn't stop. Ears ringing. 41.7 decibels maximum 29.4 minimum. That pulsing noise outside makes my head feel the same way. Feeling very irritable and concentration is off. Went to Newport. Headache went away.

February 17 ears ringing and temples

hurt when I woke up. 37.6 max 23.5 minimum. March 2nd woke up with a headache, ears ringing, can hear noise like the roaring chimney fire, something rolling. Temples and forehead hurt. Very irritable. Noise worse in bathroom. No windows. Can't wait to leave for ball game. Headache will go away. Decible rating 46.7 max 37.4 minimum. They are out of compliance and they don't care. Went to ball game headache gone before we got there.

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March 13 woke up at 11:45 and couldn't go back to sleep. Stomach didn't feel right. While downstairs I realized I could hear and feel the turbines. Feeling in my stomach was matching the sound of the turbines almost like the feeling and motion while baling hay. Sound is within legal limits, but I could feel it. March 20 ears ringing decible reading north side 39.5 max 23.6 minimum seemed.

March 23 ears ringing very loudly all night. Didn't sleep well at all. Kept waking up.

Tossing and turning. Got up at 4:30. Head felt tight. Didn't notice noise in our bedroom, but could hear it as I went through the office. 48.8 max.

23.9 minimum. Ears rang loudly all day. April 22, went out to hang laundry. Would have been a perfect

morning except for that damn plane noise. 42.8 max.

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CHAIRMAN VOLZ: Sir, your time is up.

If you only have a few more second left -- we have read all of those entries. They have been sent to us before.

AUDIENCE: I would cede my time to Steve.

CHAIRMAN VOLZ: Okay.

MR. GORELICK: 42.8 max 35 minimum. This is supposed to be all right. This is an invasion in this area. We used to have something special. Ears ringing so loud making me feel irritated, angry, and depressed. So sick of ear ringing all shrill all the time. Beginning to take longer amounts of time away from here to make it stop.

April 29 ears ringing. I am very irritable and concentration not good. April 30 ears ringing, headache mostly on left side of forehead. Laying in bed this morning sounded like house was humming kind of like roof was vibrating. Don had headache too. Used to have migraines, but this is not a migraine it is different. I never had -- never had headaches until this crap started. Downstairs can still hear a noise. Something running. Gone for two and a half hours headache went away. Ears still

ringing. After being back two hours headache is coming back on the left side. Don still has headache. Evening Don has headache on left side. He has had a headache most of the day. He took an Sumatriptan. Thought it might help, but headache came back after a few minutes so it wasn't a migraine. Thanks.

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CHAIRMAN VOLZ: Thank you. So that was Carmen who gave up your time.

AUDIENCE: Yes.

CHAIRMAN VOLZ: Kathy Hepburn is next and then Steve Halford.

MS. HEPBURN: My name is Kathy Hepburn H-E-P-B-U-R-N. We have all heard the saying that money equals power and power equals money. We in the green vests are not the rich or the powerful. We are fighting for the right of a peaceful existence in our own home and on our entire property. Manifest Destiny, eminent domain, Act 174, they all threaten that peaceful existence. When threatened with a wind turbine on a mountain next to our quiet home in Tinmouth we did research and have learned the simplistic good sound rhetoric from the wind developers promoting wind to save the planet is usually lacking in facts. The burden of proof in

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Health is damaged from living in close proximity to a turbine. The statement has been circulated by wind promoters that because you don't like wind you imagine these symptoms or make them up. People all over the world are suffering the same symptoms. We have not found evidence that wind energy reduces CO2 emissions. People who once embraced renewable energy, myself included, I used to have a windmill. In the form of wind I now know the facts and do not.

providing facts has been on the offended party.

90 percent of our CO2 emissions come from home heating fuel, air travel, and car emissions. There's no guarantee of a peaceful existence on our family farm after being threatened with eminent domain from a proposed gas line and then a proposed industrial wind turbine. Please pass a sound standard of no more than 10 decibels over ambient sound that protects people from being sacrificed for technology that has been proven to have dubious benefits. Thank you.

CHAIRMAN VOLZ: Thank you. Steve Halford and Steven Whitaker.

MR. HALFORD: I'm Steve Halford

S-T-E-V-E H-A-L-F-O-R-D and I'm from South

Wallingford, Vermont. I have to admit that sound

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standards and decibels and all that kind of make my 1 2 eyes glaze over when I'm hearing all this. 3 visual person and I brought my visual and this is what it's really all about. We are industrializing 4 5 our -- or want to industrialize our green mountains 6 so somebody can make a profit. Right now the RECs 7 are being sold to Connecticut and other states south 8 of us. Why? Because they have to buy into their 9 portfolios green energy. They have dirty energy they are producing and they need to counter that. 10 11 are we? Surrogates for that energy, green energy 12 needs, and what's happening with this? Somebody is 1.3 making money and all we are surrogates, like I said, and it shouldn't be. 14

This is a beautiful state. It's a wonderful state, and as George Atkins once said be aware of the utilities boys. Thank you. This is what I have to say about that. It's an empty bucket.

CHAIRMAN VOLZ: Thank you. Steve Whitaker and then David Butterfield.

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MR. WHITAKER: Good evening. I would start with a touchstone for whatever value you would put on it. Governor Scott ran on a platform and won on a platform of restoring trust in government, and for the Board's proposed rule and the position being

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measurements for this complex science is eroding the trust and confidence in the Board and the Department. A-weighting is absolutely the inappropriate tool when -- awaiting skews the science. It's not putting a finger on the scale it's putting a foot on the scale when you're talking about sound content and sound pressure levels that are below the hearing threshold, the infrasound or the ultra low frequency. requires measurement with an unwaited scale ideally. Just clean honest measure it across the board and then correlate that with the health effects and with the wildlife impacts. You cannot weight the scale to a weighting standard developed for human hearing only and when we know these machines are putting out sound pressure vibrations that are well below the hearing threshold.

So I do have -- I'm not prowind. I'm for credible science, honest not against wind. objective science, and we're not practicing it yet here, and I would encourage you to take that into consideration. I've spoken with members of the Legislative Committee on Administrative Rules and this Board can and should ask for more time beyond the July deadline to complete this rule and do it

properly. All it takes is a request from the Board to get granted more time.

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Fairness and well being. Fairness to the ideals and the goals of an energy independent standard or fairness to the people who are most affected who are living in close proximity. I know -- I believe that there are some people who are more sensitive than others. I live in a very quiet area, you know, and 20, 25 decibels above ambient would be outrageous. People who live in loud areas it would be -- I'm not going to try to get into the science here tonight. What I'm arguing for -- I brought a show and tell because I have studied this enough too. So here's a microphone made by Berliner. I spoke at one of your workshops. This microphone will measure flat down to 800ths of one hertz, okay, and while you're bascially going to throw away all the value of your microphone by using your A-weighting I'll be equipped to go up and measure and time record this information for you so that you can -- watching the clock.

CHAIRMAN VOLZ: I you ran out of time.

MR. WHITAKER: I'm running out of time.

CHAIRMAN VOLZ: You're at 3 minutes and

20 seconds.

MR. WHITAKER: Okay. We know there's emerging science. We know that these frequencies are measurable and recordable even if we can't hear them. We need to take the proper time to set up a process to correlate these with real human impacts with the medical professionals. Even turn it into a cottage industry. We can finally settle the science on wind impacts. I'll use an analogy. The prior blind fervor for the freedom nuclear power was going to give us we don't want to make the same mistakes with the lasting impacts. I'm not saying wind is radioactive, but I think you get the point.

CHAIRMAN VOLZ: Thank you. David
Butterfield and then Paula Pearsall I think it is.

MR. BUTTERFIELD: Dave Butterfield.

B-U-T-T-E-R-F-I-E-L-D. Like about three years ago my wife was having a little issue sleeping at night.

She was rolling, tossing, and she couldn't sleep and so I said to her what's going on? Why aren't you sleeping? She's like can you hear that sound? And I'm like no I can't hear that sound. So finally after two nights taking into consideration my wife works 12 hour days in the medical field she was just like totally exhausted. So I'm like pinpoint this noise to me. So come to find out well I finally

heard the noise so I went out and I opened all the windows in the house to see where it was coming from, and it was coming from one of my neighbor's house.

It was a rhythmic sound, okay, and I said to her you know when I get home from work tonight I will go and consult with the neighbor and see what's going on.

Unfortunately I got home late that night. The next night it was gone, but come to find out there was some testing of a windmill, an older version, smaller version and it was that rhythmic sound, sound like dogs barking, and my wife was like ecstatic.

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With that said I would like to thank the Board for understanding the science that points to the 35 dBA maximum is the right standard for Vermont. I would also like to request that they set a standard for the low frequency portion of the spectrum. Most important I would like to say to set those standards on the property line for all tax paying residents. I'm not against renewables. I just would like to have the citizens of this state, which we pay a lot of taxes, we spend a lot of money to live here, we ought to be able to have a high quality of life. Thank you.

CHAIRMAN VOLZ: Thank you. Paula Pearsall and Anthony Iarrapino.

MS. PEARSALL: My name is Paula

P-E-A-R-S-A-L-L and I'm from Fairfield, Vermont. The setback rule of 10 times the height of the turbine leans towards greater protection. Again this setback should be at the property line and not their residence. If my home is 5,000 feet away from the nearest turbine I would be considered safe, but what about the rest of my property. What if I planted a huge garden that is at the edge of my property and only 500 to 1,000 feet away from the nearest turbine? This rule would eliminate my being able to raise my food, feed my family, and enjoy my property.

Senator Brian Campbell stated when he visited the McLanes' home on Georgia Mountain he would not be able to enjoy the outdoors and garden as he does. The setback of 10 times total height has been adopted by Oregon, Poland, and Bavaria and Germany. Vermont has been a leader in so many ways that I have become proud of. Industrial wind is not one of them. You have the ability to protect Vermonters with these new standards. Vermont can be a leader in our renewable energy goals without sacrificing our citizens. Strong standards will reduce, possibly even eliminate, complaints being brought before the PSB. We can protect our citizens,

respect our communities, and still achieve our goals. Thank you.

CHAIRMAN VOLZ: Thank you. Anthony Iarrapino then Daniel Michaelson after that.

MR. IARRAPINO: Okay. Good evening. My name is Anthony Iarrapino. I am proud to say that I work as part of the state's clean energy economy. Specifically I work with the Belisle family and Swanton Wind, but no one is paying me to be here tonight and the views I'm expressing to you now are my own personal and deeply held views as a citizen.

I want to thank you also for your service on the Public Service Board. It's a difficult time made more so because the challenge of climate change has put our state in a leadership position when it comes to the development of renewable energy which a lot of people say they support, but many people here tonight aren't willing to live with in their backyard. It's a difficult time for science and it's a difficult time again to do your job.

One of the reasons why we're here tonight is because the Legislature delegated this policy making authority to you because you are perceived as an expert board that is willing and able

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and has technical competency to weigh evidence, and you have the evidence before you of decades and decades of public health studies that have shown that people can live safely and healthfully at distances much nearer to wind turbines than your rule proposes and at decible levels much higher than what you propose.

Sadly I think the science in this debate is being driven not by data and peer review and scientific data, but by anecdata, the powerful and personal stories of a small handful. You have heard their names tonight. I have heard them over and over again of people who have complained time and time again, but the anonymous majority of people, many of whom are near neighbors to some of those families, have never picked up the phone to call you and complain and they don't come to things like this because their life went on just as it had before wind turbines were built.

I understand personal stories are powerful and persuasive. They are particularly good at capturing the media's attention, but when they represent aberrations and outliers these chronic complaints cannot be the basis for a sound policy that affects the many. With the peer review

literature the Board has received in this process the 1 2 Board cannot claim that its rule is based on public 3 health considerations. If it were, the decible levels would be higher and the setback would not be 4 5 part of it. Rather it appears to be based on the 6 squishy and very subjective concept of aesthetics, a 7 concept that is almost impossible to measure 8 scientifically because it really depends on personal preferences rather than physically observable 9 10 phenomena.

In reality we all live in a world where sounds much louder than what your rule proposes exist and come into our households on a detail basis. We do that in good health and we do that without complaint. I hear the highway more than a mile away from my house. I hear motorcycles. I hear all sorts of noises that I just live with and other Vermonters do too. Vermonters have been living for decades by train tracks without complaining, without asking for special setbacks and rules.

CHAIRMAN VOLZ: Your time is up.

MR. IARRAPINO: All right.

 $$\operatorname{MR.}$$ GILL: I will yield my time. Adam Gill G-I-L-L, sir.

CHAIRMAN VOLZ: Okay.

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MR. IARRAPINO: I think the reality of

tried a number of arguments to stop wind development

what's going on here is wind power opponents have

in Vermont and to stop Vermont from making a

contribution to the fight against climate change.

They have been unsuccessful thus far and wind and its tenuous connection to public health seems to be the one they are driving home the most, but really make no mistake this is not about protecting public

about NIMBYism, and I think your rule needs to be on

This is about stopping wind power. This is

the right side of science on the right side of the

climate solution spectrum.

health.

I urge you to reconsider the voluminous evidence you have before you that other states have been able to successfully protect public health and have wind turbine development at levels that are much higher than what you have proposed and without the arbitrary setbacks you propose. Really and truly we need to be on the right side of science here. We need to be on the right side of the struggle against climate change. Wind power in a state that is dark and cloudy and cold and winter peaking utilities as Vermont we cannot get to our ambitious energy renewable energy goals without wind in the mix, and

I'm afraid to say that if your rule is adopted you will close the door on wind power and that will be a big mistake. It will also send a message to other states who look to Vermont as a green leader and will say, you know what, if wind isn't good enough for Vermont we shouldn't have wind in our state too.

That would be a horrible outcome.

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I hope you will change your mind and make a rule that's based on the record you have with peer reviewed science rather than the anecdata and allowed persistent complaints of people who don't want wind in their own backyard. Thank you.

CHAIRMAN VOLZ: Thank you.

MR. WHITAKER: I forgot to give you these three peer reviewed scientific papers.

CHAIRMAN VOLZ: Daniel Michaelson.

 $$\operatorname{MR.}$ MICHAELSON: I spoke at Bennington so I'll pass.

CHAIRMAN VOLZ: Ashley Belisle and after Ashley is Sarah Luneau Swan.

MS. BELISLE: As you know I'm Ashley
Belisle from Swanton Wind. The seven turbine wind
project we propose to build on our property is right
in our own backyard. My father-in-law who lives part
of the year in a home not far from us built the home

1 I live in with my husband. We have four dogs and we 2 just completed a barn on the property to house our 3 three horses. Ours will be one of the closest houses to Swanton Wind and we intend to live there for years 4 5 to come. We value our health and the health of our 6 community. My husband works long hours running an 7 excavation company and several days a week I work two 8 jobs. We value our sleep and overall quality of 9 life, and for these reasons we've invested much of 10 our hard life savings to ensure our wind project is right. Our property is a good site for wind like the 11 12 cornfields that are often bustling with farm tractors 1.3 much of the year, and the 20 plus businesses around 14 us, including a nearby rock quarry. The hill behind 15 our home is part of our working landscape. Our home 16 and the homes of many of our nearest neighbors are 17 very close to Route 105, a busy road with traffic 18 running at all hours of the day.

Swanton Wind site is not a pristine high elevation ridgeline. It has a long history of logging. It's currently home to an extensive maple sugaring operation. The the neighborhood is one where residents like my husband and I hear many sounds of modern life, like the nearby road, that often go well beyond 45 decible needed to protect the

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public health, much less the historically low 35 decible level the Board's rule proposes.

We're among the vast majority of

Vermonters who understand how important it is for the

state to do its part to fight climate change and who

are ready and willing to live with wind power in our

community where it can contribute to the economy,

produce greenhouse gas emissions without compromising

quality of life. I hope that you guys will adopt a

more reasonable final wind rule that allows a well

sited homegrown project like ours in our own

backyard.

CHAIRMAN VOLZ: Thank you. Sarah Luneau Swan.

MS. SWAN: Sarah L-U-N-E-A-U-S-W-A-N.

As a mental health counselor I wonder how we can deny the World Health Organization's 30 dBA interior noise standard for a good night's sleep. We all have a brain and a heart, but every individual has different sensitivities depending on experiences, neurotransmitters, and genetic makeup. Some people experience motion sickness and others do not. So many people drink alcohol and are addicted and others are not. Mental health counselors stress the importance of routines and a good night's sleep to

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teachers, parents, and people seeking positive well being and peace of mind. If you live close to a train, your body becomes accustomed to when the train will be coming as it is on a regular schedule. Industrial wind turbines are not on a schedule. cannot predict when the wind will blow nor for how The turbine noise doesn't become a part of our routine and it's more likely to stress response. least with the proposed standards those living in proximity to industrial turbines can be assured that the noise generated will be within a reasonable level. For those who think the proposed standards will halt industrial wind turbines and renewable energy in Vermont I wonder then how is it possible that Denmark and Germany are leaders in renewable energy including wind turbines. Look to Denmark and Germany, the expert countries of achieving renewable energy, and garner their knowledge of adopting strict noise standards based on their historical experience. If it does curtail a few projects in Vermont, then perhaps the topography of Vermont is not suitable for the siting for a proposed project is not adequate.

We cannot sacrifice the well being of property owners and the residents and Vermonters for some ideal. Renewable energy is vital and our lives

are vital as well, and the Public Service Board has a duty to protect today's public. I care about the well being of a hundred Swanton and Fairfield residents who will be a mile or less from the proposed wind turbines. Tuesday night in Lowell I heard several residents say they couldn't hear the They weren't bothered by them. Research turbines. has uncovered that Steve Mason who said he lived three-quarters of a mile away actually is 2.4 miles from the nearest turbine, and I would hope Hilary Almer can hear her goats more than the turbines and she lives 4.4 miles away east of the nearest turbine. Ted Fletcher only hears them as a rustling up high when the wind comes from the southeast yet he lives two miles from the nearest turbine.

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I wonder how many of the 100 residents living within a mile of the proposed Swanton Wind project will be able to say that they don't hear the turbines and that their well being is not impacted. Don't they deserve a good night's sleep. Please adopt stricter standards, include an interior standard, monitor and enforce the standards, base the standards from property lines not the existing dwellings. A property owner has a right to enjoy all of their land. Finally base standards on a maximum

1 amount and not an average.

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 $\label{eq:CHAIRMAN VOLZ: Next we would like to} \\ \text{hear from Joslyn Wilschek.}$

MS. WILSCHEK: Good evening. My name is Joslyn Wilschek. Thank you very much for your service to Vermont by sitting here and listening. I would like to encourage the Public Service Board to raise the sound standard because the current sound standards are out of context were the sounds that we all live with on a daily basis in a civilized society and no one has a right to silence who lives in Vermont. Let me give you some examples.

My relatively brand new dishwasher is at 44 db. I can barely hear it. It's on quite often. My sister who lives in Vermont her brand new dishwasher is 42 db. She has two kids so she does dishes way more than me. My nieces are fine, she's fine, and they barely can hear it. My washing machine which I recently checked is at 44 and that's running and you don't even know it's in the background. There are many things in our everyday lives that are way louder than 42 that we've come to accept. For example, when I'm hiking down the Long Trail the last quarter mile I hear the cars in Smuggler's Notch. That's higher than 42. It doesn't

ruin my hike, but the dogs that bark in my neighborhood between 5 and 6 a.m. that's above 42 db and I get on with my life. The snowplows that make our roads safe and our driveways safe, the motorcycles that go on a Harley ride on bad roads that's way louder than 42 dBA.

Wind is not a hobby. It's not a discretionary item. It's critical. It's a critical mix to the future of humanity on this planet. The sound goal will make it very difficult for wind developers to further deploy wind in Vermont. I urge the Public Service Board to please base the rule on science not on alternative facts, not on personal anecdotes, and I really appreciate your time. Thank you.

CHAIRMAN VOLZ: Next we would like to hear from Ann Jameson and after that Diane Mermaid.

MS. JAMESON: My name is Ann Jameson.

I'm from Marshfield. Last name J-A-M-E-S-O-N. Thank you very much, Board, for having this hearing so we may all speak. I believe that wind energy is critical to Vermont's sustainable energy future. We must have it as an integral part of our efforts to achieve our state goal of 90 percent of energy sustainable energy by 2050. I'm very concerned that

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the recent proposal of 35 decible sound level is so unrealistically low that it poses a severe threat to the future of wind power in the state making it functionally impossible to build new wind projects and by inference to meet the 90 by 2050 goal.

While a standard of wind sound levels might be needed, surely it should not come at the expense of a whole purpose of wind energy use. Vermont's current regulations of 45 decibels are consistent with standards in states around the country who have actually set the standards and/or World Health Organization's recommended sound levels. Many states have not seen a reason to develop wind turbine specific noise regulations rather placing the turbines under general sound standards. States which have a wind sound noise standard have used 50 decibels or above. The wind turbines regulations currently in place limit turbines to a level far quiter than most home and farm noises that Vermonters experience everyday. On a sound comparison chart 35 decibels falls between rustling leaves and bird song. If other sound sources were held to the same standards as those being proposed for wind turbines, we could be banning vehicles, dogs, and farms.

Complaints about the noise of wind

1 turbines seem to have come from only a small minority 2 of people with homes near projects. Out of 164 homes 3 within a mile and a half of the Georgia Mountain Community Project only four complainants recorded 77 4 5 different complaints. For Sheffield out of 54 homes 6 within that mile and a half radius there were only 7 four complainants. Yes I do understand that some 8 people are more sensitive than others. Most 9 residents, however, seem to get on with life as has 10 been said knowing that their electricity is not being 11 produced by fossil fuels.

CHAIRMAN VOLZ: Your three minutes are up if you can wrap it up quickly.

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MS. JAMESON: Okay. Thank you. For setting sound levels for wind turbines more realistically at or above 45 decibels I believe we can continue to make a winning investment in sustainable local energy future. Thank you.

CHAIRMAN VOLZ: Thank you.

MR. NARMEGH: Dhyan Narmegh and I did speak over at Lowell, but it was in response to a comment that somebody had about Mr. Chen saying that there was nothing to -- there was no health effect. So I was going to comment here. I have something else here. I have there are -- I have these

different studies. This is the altered cortical and subcortical connectivity wind turbines affects on humans and animals.

 $\label{eq:board} \mbox{\sc BOARD MEMBER HOFMANN: We'll come around}$ and get those from you.

CHAIRMAN VOLZ: Can you spell your name?

MR. NARMEGH: D-H-Y-A-N N-A-R-M-E-G-H

and then I have says do wind turbines harm animals

and this is another one. Wind farms and birth

defects. Farmer in Wisconsin lost 17 calves and 15

cows to abortions and just dying being near wind

turbines, and this is wind turbines affecting

lipizzaner horses in Portugal, and also I have here

pictures of ears from different animals in Vermont,

and I also wrote this thing or testified about three

or four years ago on sound. I don't know if anybody

ever read it or not, but anyway I gave it to the

Board.

If there are studies that show malformed feet on horses in Portugal, animal deformed feet in livestock in Canada, it shows that geese are sick and confused in Wales and aborted cows in Wisconsin, what is happening to our ground animals that reside near the wind facilities? Learn from existing statewide projects is what the Vermont Comprehensive Energy

Plan says, and it is a mystery how anyone on this
Board can make an accurate safe determination on
sound and infrasound when none of you live near a
facility.

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I have spent two nights sleeping out at Lowell and Sheffield, Vermont. The sound goes right to your pineal gland in your head. It's like being -- like Mr. Nelson said being in the bathroom and feeling it in the bathroom. It goes right to the center of your head. You notice on all these pictures that ears of all animals in Vermont are large and they have a lot of hair in them and the hair catches the sound and it goes to their stem of their brain and then it goes to -- this helps go to help them hear.

CHAIRMAN VOLZ: Sir, you have used up your three minutes if you can wrap it up.

MR. NARMEGH: Three already. Holy cow.

CHAIRMAN VOLZ: Since you spoke the

other night I think you should allow other people to

have a chance. So if you can wrap it up quickly,

that would be useful. You can come back at the end

if we have time or you can submit it in writing.

AUDIENCE: Excuse me. He can have mine.

CHAIRMAN VOLZ: What's your name? But
you have already spoken too so you're not up for

1 tonight either.

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AUDIENCE: Geez. Well I thought that was okay if everyone --

CHAIRMAN VOLZ: We got a long way to go. It's just fairness to other people too.

MR. NARMEGH: I'll wrap it up because I've been about I don't know four or five days of anxiety just putting this stuff together because nobody on the Board really talks about animals and hearing and I take -- three or four nights I've been trying to get this down.

CHAIRMAN VOLZ: We'll be happy to look at the stuff you have put in.

MR. NARMEGH: There it's right there.

CHAIRMAN VOLZ: Ian Stokes next and then
Ron Holland.

MR. STOKES: Thank you. My name is Ian Stokes S-T-O-K-E-S. I live in Richmond. I was trained as an engineer and as a scientist, but I'm not a climate scientist so I trust the climate scientists who have done the hard work of gathering and analyzing data to show the consequences of human activity on our climate. I also trust the entirety of the evidence from scientists and others who have shown the consequences of human exposure to noise,

though it appears that the harmful levels are significantly higher than those currently being considered by the Board.

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However, people who live in cities and those who live close to busy highways are exposed to noise from traffic powered by noisy internal combustion engines burning fossil fuels, and wind power is potentially the solution to both of those problems in transportation. So in transportation we have a dual problem, pollution and noise. The most likely solution consists of quieter battery powered vehicles powered realistically considering the need for a mix of renewable energy sources powered by wind power, and that keeps our dollars in Vermont if those turbines are in Vermont.

While Vermont has achieved a reasonably good record of finding renewable outsource of energy so far albeit largely at the financial benefit of out-of-state electricity generation, the future expanded use of electric vehicles and electric heat pumps will substantially increase the demand for renewable electricity. I also live close to the Burlington airport that hosts very noisy commercial and military planes. Very large numbers of families of houses have been bought up and demolished to

achieve a noise target level of 65 decibels in 1 2 residences. So that is about 35 decibels greater 3 than the proposal -- the current proposal for wind turbines. As you know this is a logarithmic scale so 4 30 decibels is a factor of about a thousand. 5 there are solutions to siting of noise generating 6 7 public facilities. If wind turbines have to be near 8 residences and those residences really would be 9 exposed to harmful sound levels, there are ways to 10 solve that problem. Extra costs should be met by wind turbine owners or from other sources. 11 I believe 12 it's the responsibility of government and regulators 13 to find solutions to problems like this and 14 eliminating options is not acceptable. Thank you.

CHAIRMAN VOLZ: Thank you. Ron Holland and then Luke Deslaundes. Mr. Holland.

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MR. HOLLAND: So my name is Ron Holland from Irasburg H-O-L-L-A-N-D. This topic for discussion tonight of course is sound and setbacks, but it's in the context of some incredibly aggressive renewable energy goals which are on the figure. You can't see the figure so I'll have to describe it to you. Imagine here there's a line that goes to the ceiling that goes from zero to 100 percent, and then across this way is a line that goes from 2020 to

2050, and I plotted on this figure all the renewable energy goals from every state in the Continental United States and they all cluster between 2020 and 2040 between 10 and 50 percent. Okay. So here is the mainstream of the bell curve and Vermont is way up there. Vermont at 2050 is up by that ventilator up there, and then back here about 2020 75 percent and right now it's 55 percent, and so clearly Vermont is an outlier which makes you outliers too because you have to manage this program.

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So the history of outliers is, you know, geniuses are outliers, then there's something on the other hand too, and so the question is why -- why does the state with the least carbon footprint per capita have the most aggressive goals. That's a good question, but the second question is what is the impact of that on the Vermont economy? State documents indicate that the capital costs of going to that 90 percent by 2050 is 30 billion dollars. Now 30 billion dollars is basically one year's worth of Vermont's gross state product, and that capital, that 30 billion dollars of capital, will command somewhere between five and ten percent return on investment which over the course of 600,000 people over 25 years is between three and five thousand dollars per

citizen. Okay. But more significantly than that 1 2 cost what -- how does that impact what goes on in the 3 Vermont economy? For the last 18 years the average growth 4 5 rate of the Vermont economy is 3.8 percent. 6 recently 2.5 percent. What happens in an economy 7 when the return on capital --CHAIRMAN VOLZ: Your three minutes are 8 9 up. 10 MR. HOLLAND: Can you give me --CHAIRMAN VOLZ: Yeah. 11 12 MR. HOLLAND: I'm very fast. I got 20 1.3 seconds. 14 CHAIRMAN VOLZ: Good. 15 MR. HOLLAND: When the return on capital 16 exceeds the growth rate of an economy currently 2.5 17 percent, when Green Mountain Power can get 10 percent 18 return on investment, the rich, the capital class gets richer. The poorer gets poorer. Okay. So what 19 20 I would encourage you to do since Vermont is an 21 outlier and you're an outlier I would encourage you 22 to protect Vermont homes from the sounds of the 23 capital class. 2.4 CHAIRMAN VOLZ: Luke Deslaundes.

MR. DESLAUNDES: My name is Luke

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D-E-S-L-A-U-N-D-E-S.

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CHAIRMAN VOLZ: And if Gill Tremblay could get ready to come up.

MR. DESLAUNDES: And I'm from Swanton on Route 105. Thank you for being here. This proposal — this proposed noise and setback standards are not about the industrial wind developers or climate change. They are about the people. The people of Vermont who have been left with a renewable energy plan that was written by a former — resumed by a former Governor who was a great political advocate. As a result a portion of the population is suffering because of it.

To take advantage of the light wind resources in this area of the country bigger wind turbines will larger hub diameters are required as a result of these increased turbine size, renewable rates, RPM, and blade pass frequencies have dropped create low frequencies. Sounds in .1 to 1 hertz range, things not observed in smaller faster turning turbines. Our technology — our topography is numbness and irregular reflecting sounds unevenly and explained why some people are affected and others are not. As close as next door when you start building some taller wind turbines and place them closer to

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houses you exert -- exacerbate these effects.

Combine this with dusty winds which even Lieutenant Governor acknowledged to be -- to mean during last year's campaign are a problem for the smooth and effective operations of the turbines. As the blades pitch constantly must be projected to catch the light wind and spill the strong gusts like a sailboat. These blades are like the reed in a clarinet or a xachsaphone. With the addition of wind and the varying pitch of the blade vibrate and invent noise along with the turbine's generator, and the standards of the Germany and Denmark have succeeded why should we -- we should succeed the same way as they do and why should we be putting turbines here or even solar when they don't even put them on their property. should be for us. The standards should be for us not for the wind developers and thank you.

CHAIRMAN VOLZ: Thank you. Next Gill Tremblay and then Patty Rainville.

MR. TREMBLAY: I'm Gill T-R-E-M-B-L-A-Y.

I live about 1200 feet I guess from the turbine, and
my grandkids are about 25 feet away. I got four
grandkids that are home schooled. They are going to
be home all day long listening to this. How would
you like to be living there with your four grandkids

and listening to that all day long? Plus I've got a wife whose had triple bypass and she's got hard times and with the flicker it's not good for her. My sister-in-law whose had a heart attack living with us and then there's another little kid lives out on the road that's got epilepsy. I think it's epilepsy. He has seizures all the time. This is going to affect everybody. I mean I love Travis. He's my cousin. I wish he would reconsider on this because it's going to affect our lives a lot. Thank you.

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CHAIRMAN VOLZ: Thank you. Patty Rainville and then Pamela Hathaway.

MS. RAINVILLE: My name is Patty
Rainville. I live in Swanton. For the subject of
health issues I think you have heard a significant
amount of information on the subject and I would ask
in the entire scheme of the universe is there any
priority higher than the overall well being of our
families and friends. My neighbors are the
Tremblays. Their daughter lives in between us. They
have five kids. She is terrified as to what will
happen to her kids. Anybody who has kids or nieces
and nephews certainly don't have to dig to understand
why they would be concerned.

Should anyone willingly put their family

or friends in harm's way after reading all of the reports, specifically the diaries of the Nelsons? With the current rate of advancement in technology does the life span of wind turbines validate the disruption of the immeasurable wealth of fresh air, fresh water, healthy wildlife, and the unbroken vistas that make this land what it is.

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On the subject of health of waterways,
Lake Champlain, Fairfield Pond, rivers and streams,
as a long time board member of the Friends of
Northern Lake Champlain this subject is familiar and
it matters. Having spent my entire life in, on, or
around the lakes I recognize the integral role our
waterways play in our economy. With all of the
evidence of the significance and connections of our
forest and streams working together naturally, what
is the real reason Swanton Wind is opting to dismiss
all of our concerns? And I would say -- I would ask
if this gets to you, if it gets in will you move or
will you grin and bear it? You'll have kids by then.
Would that matter? It should bother you.

There are alternate solutions and the undeniable reason to oppose industrial wind 98 percent of the state's annual emissions are captured by our existing forested land. We need to protect

1	our forested areas along with additional important
2	habitats such as wetlands. We know from existing
3	data how forested areas capture carbon dioxide. We
4	must identify and protect these areas from
5	alteration. In addition, we must begin immediately
6	immediate emissions reduction in two areas
7	providing 75 percent of our contribution.
8	Transportation and home structural heating
9	CHAIRMAN VOLZ: Your three minutes are
10	up.
11	MS. RAINVILLE: Subsidies should be
12	redirected to Efficiency Vermont. Thank you.
13	CHAIRMAN VOLZ: Thank you. Pamela
14	Hathaway and then Christine Lang.
15	AUDIENCE: I spoke in Lowell so I'll
16	pass.
17	CHAIRMAN VOLZ: Thank you. Then after
18	Christine Lang will be Bennett Shapiro.
19	MS. HATHAWAY: My name is Pamela
20	H-A-T-H-A-W-A-Y. I'm from Marshfield. I've spent
21	about 35 years of my life on energy environmental
22	sustainability issues after having a master degree in
23	science, and I have seen the costs of many forms of
24	energy and worked on different many different

forms of energy including fracking in the west and

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some of the other incredible fossil fuel options that are out there.

I just want to applaud Vermont's commitment to renewable energy and I want to thank you for all the great work you have done to encourage the development of renewable energy and the meeting of a high level standard of renewable energy in this state. I want -- I'm going to keep my comments short because a lot of other people have spoken to some of the points that I was planning on making, but I just want to encourage you again, as I have heard others say, as policy makers you're taking into account the entire population and the environment and future generations. I've seen opposition to this -- to wind energy by very few people compared to the numbers of people that I have heard speak in favor of wind energy as an important and critical component of our renewable energy mix in the future. I feel like it's very important to give our future generations the opportunities to have choices, and if we limit the amount of diversity of energy options that are available to us now, particularly clean energy options like wind, we will be reducing the options we have -- future generations have available.

We really can't wait. We have viable

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technologies that have been developed over many decades. Stopping wind energy in Vermont will limit the opportunities now and in the future. I just think again it's vitally important that as leaders of our public sector here in Vermont that you do consider the large picture and the bigger picture and the importance of that as you make your decision. Thank you very much.

CHAIRMAN VOLZ: Thank you. Next Bennett Shapiro and then Brian Dubie.

MR. SHAPIRO: My name is Bennett Shapiro S-H-A-P-I-R-O. I've been working as an audio engineer and technician here in Central Vermont for about 25 years. I'm not sure if everybody here understands just how quiet 35 decibels is. 35 decibels within the audible audio range is incredibly quiet. If I could just not talk for a second, without talking the ambient level of audio in this room is about 42 decibels. That's just people moving around and breathing. 35 decibels is quiet. With that said I think it's a ridiculous level to set. I think wind blowing through trees is louder than 35 decibels. I mean at least at my house on a regular day wind blowing through trees is louder than 35 decibels. With that said that's in the audible audio

range. We're not talking about extended low frequency. We're not talking about non A-weighted sound. I'm just talking about audible sound as picked up by a regular measurement device the way that this probably would be because chances are people aren't going to measure these things properly.

In a state where the F35 is being allowed to be housed and used, the idea of a 35 decible level for wind power makes no sense whatsoever. If you're going to have the F35, have a reasonable level for wind -- for wind power noise.

35 decibels is nuts. Thank you.

CHAIRMAN VOLZ: Brian Dubie and then Keith Ballock.

MR. DUBIE: Hello. My name is Brian

Dubie. I live in Fairfield, Vermont. First of all,

thank you for your service. Thank you for the

opportunity. I would like to compliment the

attendees have been very civil. I'm going to try to

continue in that vein.

About two years ago this Board, not the same members, conducted a hearing in Morrisville,

Vermont and it was on this very subject and it was to learn information on existing wind projects in our state. I was shocked quite frankly and disappointed

when one of my high school friends testified that he supported Georgia Mountain before it was built and that he was very upset that his high school son, college level son, chose to move out of his house because of the impact of this new wind project. He was really shocked and I was shocked because both of us had supported the project before it was constructed.

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Our Comprehensive Energy Plan says that we will learn from existing projects. I've learned, a lot of people in green vests that are here tonight have learned, and I've learned from people that are maybe not audio experts as the previous speaker, but I've learned from people like the Nelsons and the McLanes and the Brouhas who share with me their stories. On my lunch break -- I work one day a week in Georgia, Vermont. I started on the bottom of the hill I started knocking on doors and I said tell me what it's like to live here, and the people that were at 6500 feet said hey no big problem. The people at 5,000 feet they said well I hear them once in a while. When you got -- what I found from listening to the experts that with the people that live within 5,000 feet as you get to the -- some of the people, the Johnsons, within 3800 feet it's unbearable.

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is a significant diminishment of the quality of life of these Vermonters.

So I would like to compliment the Board for not arbitrarily and reacting, but by doing your due diligence, looking at people like Denmark and Germany, learning from people that are world leaders in renewable energy, picking the best standard because at the end of the day if you really care about sustainability you won't say okay we're going to have some collateral damage here that's going to create all these people that come out in green vests and say we have to tighten this up folks. So you're doing what I expect government to do. You're listening, you're studying, and I would like to compliment you on a 35 db standard. I think it should be at the property line.

I would like to compliment you that you have a 10 times turbine height. I'm a little concerned when I hear about six megawatt machines that are 600 feet, and I wonder if -- the standard used to be 1.5 now it's 2.5, and to compare a wind turbine, which is like a 747, on Hubbard Mountain, if you look out the Public Service Board window on the street level and you look at Hubbard Falls, the tower on the top, that's what Swanton Wind is. It's the

same height. It's a 500 foot tower with a 747. 1 2 not a dishwasher. It's rated at 109 decibels of 3 noise. It's all about how close you are to that noise. Noise as we all know attenuates. So I'm 4 5 really concerned about the monitoring. I'm very 6 concerned about the enforcement. I'm sure you are 7 These things are very difficult. When I take off out of Denver in my airplane if I deviate from 8 9 the sound track from the ground track geographically, 10 if I'm slow in a pullup, I get fined. I think this is not a hobby industry. This is an industry. It 11 12 should be regulated as an industry. There should be 1.3 constant monitoring. There should be penalties for 14 enforcement if we want something that's sustainable. 15 Vermonters expect good government. I compliment you 16 for doing the due diligence that you have done. Please continue to look at the science. It's not all 17 18 about health. People that are annoyed lose sleep and if you lose sleep you have a diminished quality of 19 20 Thank you for the opportunity and thank you 21 for your service.

CHAIRMAN VOLZ: Thank you.

MR. BALLOCK: Hi.

CHAIRMAN VOLZ: Keith Ballock and then John Smitty. Mr. Ballock, you spoke at Lowell.

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MR. BALLOCK: Yes I did.

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CHAIRMAN VOLZ: So if we could go on to somebody else.

> MR. BALLOCK: Is there many people? CHAIRMAN VOLZ: Yeah behind you.

BOARD MEMBER HOFMANN: We'll try to come back to you.

CHAIRMAN VOLZ: Thank you. John Smitty and after John Smitty, Allan Sands. Santos or Sands.

MR. SMITH: Good evening. My name is John A. Smith. S-M-I-T-H.

CHAIRMAN VOLZ: Sorry about that.

MR. SMITH: I live in Swanton. Last three years I have had to do a lot of research on industrial wind turbines, and by searching for the truth and I've been reading articles and medical reports both, and what I have seem to have found relating to wind turbine noise and infrasound that they bring also with them a lot of medical problems. Dangerous ones. Some including death. Now the standard level that you were looking at I personally think should be 42 decible level at the property line and 30 decible at night from the bedroom with the windows open. The setback of 10 times the height of a wind turbine is fine. In Australia and New Zealand

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they are 42 and 30 and they have a setback of 20 times the height of a turbine.

To put a project in where you deliberately know that you're creating both medical problems, possibly death, to me I would have to consider that knowingly that you're trying to commit genocide and as far as I know genocide is still illegal. Thank you.

MR. SANDS: Good evening. My name a A-L-L-A-N S-A-N-D-S of Grafton, Vermont. I'm a Selectboard member and past chair of the Board. I was the chair when the controversy -- when a courtesy visit from Meadows End Timber and Iberdrola announcing an application for met towers and a potential wind project in Grafton and Windham. remember asking a few questions about timelines and thinking this will be a major event for the town with both concerns and potential opportunities for the town, but the decision should be made by the town's voters; not just the selectboard or the Planning Commission, but the whole town should weigh in after quality information is collected and exchanged and discussed, the pros, the cons, and then voted on. How very naive I was.

The reality is it only takes one person

in town that is opposed and has time and money to 1 2 make the majority of the town believe the same. 3 like the story of chicken little. If you read the national PR report which I have attached, you will 4 5 see this is bigger than just a few folks in Grafton 6 and Windham. A meeting with the state level lobbyist 7 gets the national plan rolling at the local level. 8 I've also attached more examples of what took place 9 in Grafton and Windham, but for tonight I ask how 10 many of you have smartphones and how many have a sound meter app on their smartphone. It's a free 11 12 download. How many have tested decible numbers and 1.3 know what they mean. 30 decibles is a whisper. 50 moderate rainfall. 60 normal 14 moderate. conversation. Go out and monitor. You will see it's 15 16 very hard to get 30 decibels without -- without wind 17 turbines. The production model Ford 150 with dual 18 exhaust registers 95 decibels. We have lots of those on the road. 19

CHAIRMAN VOLZ: Thank you. Next Kathleen Scott and William April after that.

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MS. SCOTT: Good evening. My name is
Kathleen Scott S-C-O-T-T and I'm from Windham,
Vermont. In 2016 I participated with two neighbors
in my community in negotiating with Iberdrola for

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protections and benefits for our community related to the proposed wind project should it come to our town. The Comprehensive Energy Plan I see as a winning proposition for the future of Vermont, and it demonstrates again Vermont's historic leadership in attacking the critical issues such as global concerns related to energy production, use, and climate change.

At the same time I believe many of whom are against wind energy play to the fears of wind turbine noise and visuals to take wind technology out of the CEP solution equation. When I look at the energy resources noted as pathways to achieving the goal of 90 percent by 2050 wind energy is noted as one of the least costly resources. Without the inclusion of wind technology it will be very difficult to achieve the goals in a balanced way.

My personal background is in the rotating equipment industry; pumps, compressors, motors, varying frequency drives. These products drives other products such as water, wastewater, and sewage. I'm not a technical expert, but from a customer service standpoint I was frequently the person contacted with any concerns or complaints, and I learned over 30 some years in that industry that

people frequently come with one of two issues, a perception firmly in place already or susceptible to the opinions of the loudest voice in the arena.

Through these experiences I've always found and counted on Public Service Boards who have a responsibility to review issues before them through

the filter of the overall public good, the best

appropriate place for deciding infrastructure issues.

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The proposed sound standards you are recommending make me question that judgment. The rule of 35 dBA from 9 p.m. to 7 a.m. essentially eliminates wind from the pathways to achieving the goals of the CEP based on an unreasonable standard and giving credibility to an unrealistic unnecessarily low sound level. The Comprehensive Energy Plan has had broad bipartisan support across the state. A balanced approach to achieving the goal is paramount if Vermonters are to truly win in the larger sense. To that end I would encourage you to change the decible limit to an overall 45 dBA. Thank you for your time.

CHAIRMAN VOLZ: Thank you. Next William April and after that Sally Callopy.

 $$\operatorname{MR.}$$ APRIL: My name is William A-P-R-I-L and I live in Waterbury Center. I have not been

exposed to any wind power, but I do have tinnitis. I got it about 12 years ago when I went to a casino and there's no fix for it. Some people get a fix for it, but I haven't found one. I tried acupuncture and hypnotism and drugs and chiropractic and neuropathic and it doesn't help it. My wife goes in a casino every six to seven weeks. When she goes there she goes in with her friends. They have a wonderful time. Comes back never has any problems.

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So everything is very subjective as to individuals and how they are affected by the sounds around them, and I think this proposed 3500 is considerably too restrictive for wind power and it's going to take the industry out of the loop and we do need a mix. I've got a solar tracker at my house and I haven't paid an electric bill for several years and I give money back -- get money back from Green Mountain Power as a matter of fact. So I am all for renewable energy. I'm all for energy that is able to mix in with everything else and I think wind power is a good piece of it. Not everything is going to be a good piece of it. Thank you. Thank you.

CHAIRMAN VOLZ: Ms. Callopy, you spoke the other night. I'll keep track of the other people. We'll see if we have time at the end. Carol

Irons and then Bill white.

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MS. IRONS: Good evening. Can you hear My name is Carol I-R-O-N-S. I come to speak for those who have been voiceless in these proceedings. Giant machines are noisy. Giant industrial size turbines are very noisy and create a heavy throbbing vibration that pulses out across the land. I live two and a half miles from the Lowells and I hear them off and on. To insist that such a condition has no effect on living organisms is a bald faced lie. answers, though, about how it affects depends on the weather conditions and it depends on the features of the terrain. Start with trees. The standing ones as we call them in the Abanacki culture absorb carbon, reducing significant amounts of our carbon emissions. Trees communicate with each other. This is a scientific reality that the foresters are understanding better and better.

Several decades ago a study demonstrated that when chainsaws began cutting trees noisy at the edge of a forest the trees showed measurable stress with technology up to a mile away. The sound and the harm of miles of trees cut or exposed to chemicals on industrial sites creates stress all over the forest. Those huge throbbing machines continue to broadcast

hard noise into miles of forest land day and night. 1 2 In the past two years we have seen along the side of 3 the Lowell Mountain range a broad swatch of stressed trees whose leaves are brownish. Speculation was 4 5 that it is drought, but we did not have drought last 6 year in the Northeast Kingdom even though we had dry 7 We were in the fifth year of noise induced 8 Well maybe the tree problem was due to bugs, stress. 9 Maybe so. Isn't it the songbirds who control 10 the balance of harmful insects and isn't it well known that giant wind turbines kill thousands of 11 12 songbirds? When it's the concussive noise which is 1.3 very possible or the change in air pressure from huge 14 spinning blades. It's a moot point. Dead songbirds 15 don't eat insects. So it is -- is it just a 16 coincidence that a large recent reduction in the 17 songbird populations are occurring just as the 18 industrial wind projects are increasing? What else do birds have to do with noise? 19

Since wind proponents point to decibels of bird calls look at the massive difference in the tonal quality, the timing, and the impact on other living beings of various noises. A Canadian farmer shared research with me that indicates that the high multi-pitched calls of numerous songbirds actually

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has its vibrational effect on plants. It stimulates their growth. Note the timing. So strong in spring and early summer and most especially in early morning and evening times. In contrast, the audible noise from turbines is variously described in machine terms as lawn mowers, as a roar, or an airplane over the mountain, and it continues day and night as well as in all seasons.

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CHAIRMAN VOLZ: Your three minutes are up. Do you want to wrap it up.

MS. IRONS: I will wrap it up. Yes, sir. Wildlife is more sensitive. We have seen huge changes in wildlife patterns on the Lowell Mountain. They have come down off the mountain. They have crossed the river. They have had to abandon that very pristine area because the sound is affecting them also. You can't -- you can't look at one segment of a whole ecosystem, and I know this is what you're supposed to be about, but all these segments affect all the other segments and so you have to look at it as a whole ecosystem. Thank you.

CHAIRMAN VOLZ: I just would urge you -I appreciate why you want to clap, but it slows
everything down and we'll hear fewer people the more
time we spend clapping. The next person is Will

White and after that Rhea Wilson. At some point we're going to run out of time. If we don't get to everybody by 10 or so, we're going to end the public hearing.

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MR. WHITE: Good evening my name is -CHAIRMAN VOLZ: I misspoke. We only
have until 9:30.

MR. WHITE: My name is Will White. I'm from Brookfield. The proposed rules will result in the defacto ban on wind. This will have a negative impact on jobs, our ability to fight climate change, and our ability to reach our goal of 90 percent renewable energy. I am all in favor of regulating wind noise as long as it's reasonable and these proposed regulations are not reasonable. That's my comments. Thank you.

MS. WILSON: Hello. My name is Rhea R-H-E-A Wilson. I just want to say that all the issues discussed here far and away the most important is the potentially devastating planetary effects of climate change, and so I want to make sure the Board takes that into consideration as it sets these standards that it must not set standards which

prohibit the development of wind power.

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CHAIRMAN VOLZ: Thank you. Gregg

MR. FREEMAN: My name is Gregg Freeman G-R-E-G-G F-R-E-E-M-A-N. I work for Aegis Renewable Energy, commercial solar and wind. I got involved in renewable energy because I'm trying to reduce the disastrous effects of climate change. I would like to -- just to start with a list of infrastructure that has a lot of sound louder than 45 dBA; gravel pits, roads, railways, dams, transmission substations, farms, sawmills, landfills, marinas, airports, manufacturing plants, automobile mechanic shops. Many people in this room are involved in those types of industries. Why are wind powered facilities any different? Why are we singling them out?

If this proposed rule is implemented, it will be the most restrictive sound rule relating to wind turbines in the entire country. It will shut down wind development in Vermont. Without a diverse source of renewable energy it will be impossible to meet the comprehensive energy goals. Before a rule is implemented we want several answers to questions — several questions answered. Where is the data

that the Board is relying on for this rule? Has the
Board conducted a cost benefit analysis in order to
weigh the proposed effects on the environment cost to
industries such as ski resorts, maple syrup, tourism,
tax benefits to towns, job creation? Has the Board
taken surveys and polling in Vermont to get an
accurate record of Vermont residents views on wind
power? What proof does the Board have to justify the
proposed rule? And we wanted to know who is leading
the effort on this proposed rule?

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We agree that the industry should be regulated. We agree to standards. We would rather work together to find a solution instead of sneaking this in the back door. Thank you.

CHAIRMAN VOLZ: Thank you. Next Donald Dvoil, and after that Chris McKay.

MR. DVOIL: Hello. My name is Donald D-O-N-A-L-D D-V-O-I-L. Sorry I have a cold. I'm a resident of Montpelier and I'm a college instructor for the Vermont State Colleges. I wanted to try to maybe say a few things which are different from what are being said by other people to add something else to the debate something. So I some thoughts on what it means if Vermont decides to set a limit for wind power that makes it impossible for any future wind

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development to take place here which is what this limit will mean.

Vermont is a state which is a net importer of energy. It is a net importer of electricity. Vermont has enjoyed a luxury of being able to use electricity without having to deal with the reality of what producing electricity means. development of wind in Vermont has changed that. All energy development has an impact. Every form of energy production we have has disadvantages, has environmental impacts. In making a decision about whether wind is the right way to go I think we can't write it off simply because it has impacts. Every form of energy production has them. We have to look at the impacts and compare them with what the alternatives are because unless every single one of us is willing to turn off our phones, our lights, and every other electrical device we have because that's really what we're talking about here, we all use energy, then you know we have to use power, and it's not right for Vermont to expect other people to deal with the reality of power production if we're not willing to deal with it in our own state.

If you look at what the realities are of producing electricity from most of the other options

that on the table are, wind is a pretty good bet.

Environmentally it's a good bet. We have heard a speaker just talk about ecological impacts. I'm telling you wind okay logically is a good bet.

Vermont suffers from acid rain. It's suffers from acid rain because of coal production in other parts of the United States. If you look at the other options on the table, wind really is environmentally benign and it's socially benign compared to most of those impacts as well.

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Are we as a state really willing to let people in other places put up with carcinogens in their air that kill children from coal-fired plants or fracking and so forth because we've decided wind is too detrimental to our communities. That I think is a pretty sad statement if that's the case. So I just think wind is something we have to be willing to look at.

One final thing I would like to add.

I'm an originally from Scotland. I've lived here for about 12 years. The debate about wind going on here right now reminds me about the debate about wind in Scotland 25 years ago. That country didn't have wind then. It now has more than one hundred percent municipal generating capacity for wind. Wind is

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everywhere. When I go back and visit my family there are wind turbines right outside my hometown. There are wind turbines in the city where I grew up.

People have got used to it. There's no health crisis in Scotland caused by wind. It hasn't lost its tourist industry. Does everybody love wind? No.

Does it have no impact? No, but at the end of the day when I go back and visit people don't even notice the wind turbines any more. They have just got used to them and I think in Vermont maybe we can give it a chance. We can get used to turbines here too and I think we need to do it. Thank you.

CHAIRMAN VOLZ: Next up Chris McKay and Peter Blosd.

MR. McKAY: Chris McKay, Waterbury
M-C-K-A-Y. I'm proud to say that I work at Northern
Power Systems where we design and build wind turbines
right in Barre, Vermont here. Some of my co-workers
are here. We were all at work today. There were
dozens of people down in the factory floor building
wind turbines and getting them ready to ship around
the U.S. and really all over the world. So -- and,
you know, we're not a multi-billion dollar company
looking to make getting rich and making huge profits.
We're actually, you know, just trying to make a

living and make a difference and these kind of rules would definitely kill wind in Vermont. So, you know, this is not in our view my view about -- you know it's really about trying to just stop wind, and at that level of where this rule is it would really prevent wind development altogether here which I think would be a sad thing.

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We have -- you know there's a reasonable proposal that was put forward by Renewable Energy

Vermont that takes, you know, what I think would be a more balanced approach to respecting our neighbors and our citizens and our fellow Vermonters and allowing wind to be competitive with other industries that are here in Vermont. So I think, you know, we're a small business and I wouldn't want to see any other small business prevented from making a living by giving rules that were outliers and very different in terms of what they can do compared to everybody else.

Also we have hundreds of our turbines that have gone into Europe. There's been a lot of comments about Europe. You know we have turbines in England, Scotland, Ireland, Italy, all over Europe, and you know the absolute number the db's are only part of how these rules are. There's more subtlety

to it and I can tell you if this rule that's being proposed that was in those countries, we would not have been able to put most of the turbines that are in those places up, and our turbines are just some of many thousands of turbines that are there. If you go to Germany and Denmark, there are thousands and thousands of wind turbines and those are done within their guidelines. So this is -- I think I would like to see the rule considered that would allowed for wind to be competitive and for our jobs and our factory to be kept vital in this state.

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CHAIRMAN VOLZ: Thank you. Next Peter Blosd and after that Alton Smith.

MR. BLOSD: Hi my name is Pete Blosd
B-L-O-S-D. I'm from Barnet, Vermont and I am here to speak in support of a compromise. I should say that I played a very minor role in the construction of the Sheffield Wind Farm. I was employed for a short time by the company that did material testing on concrete soil. I've not been employed by that company for several years. I believe it's fair to say that my employment has no influence or bearing on my statement today one way or the other.

I am no longer a member of any environmental organization. I was prompted to attend

today's hearing by VPIRG, however, I do not 1 2 necessarily agree with every position taken by that 3 organization. For example, I do believe that infrasound is probably real at least to some extent. 4 5 I also believe that the proposed 35 dBA limit for nighttime outside residence is probably the ideal 6 7 standard. A somewhat similar standard is used in 8 Germany, however, 35 dBA is a much, much, much lower 9 limit than 45 as I'm sure you well know. The 45 10 limit is the standard for the World Health Organization and the current Vermont standard of 11 12 The State of Maine currently has a standard 1.3 of 42 for nighttime which is I believe the lowest 14 standard in this country.

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It seems to me that the situation calls for a compromise. I propose a nighttime outdoor standard for residences of 40. Split the difference. 40 dBA. But I'm sure many will ask why compromise? Why compromise with public health? Why compromise when it comes to the defense of mother earth? Why compromise that which is sacred because these are terrible times. These are times like before the climate crisis requires us to reevaluate everything. Now I suspect that there are some people here today who might identify as so-called climate denyers, but

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most of us here I think probably accept that the earth is warming. Most will accept that the warming is human caused, but I suspect for many the acceptance stops there. Not everyone accepts that the climate crisis is actually a crisis. Not everyone fully appreciates the urgency of climate change. It's what I like to call climate denial light, but Bill McKibben just, for example, says climate change is the most urgent challenge we face. It's not like global warming is a like a war. It is a war. We need wholesale changes in energy production. James Hanson and I won't list --

CHAIRMAN VOLZ: Your time is up. Your three minutes are up if you could wrap it up.

MR. BLOSD: One more paragraph, but what does this have to do with wind turbines in Vermont. A few wind turbines in Vermont will not save the world, but despite the limitations of wind, despite Vermont's renewable energy credits, there remains an urgent and overarching need to build renewable energy through solar and wind. It is my hope that the Board will fully consider the urgency of the climate crisis, and it's my hope that the Board will consider a compromise 40 dBA for nighttime outside residence is a reasonable compromise. Thank you.

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MR. SMTTH: Hello. I'm Alton Smith I've traveling a lot in the west. I've seen a lot of wind towers out there and I've never seen one on a mountain anywhere. As a matter of fact, I take the Amtrak back from west to east and in Denver in the west we looked out, the towers are in the valley, and when it comes to New England nothing works on our medium to higher mountains and the blasting that takes place there is just unbelievable. People will look at mountains 300 years from now and will say what were they thinking when they blew the top off these mountains. I think we have to look at more restrictive standards as far as placement of windmills go and I would urge you to use European standards for doing that. We tend to be in our lives here in the United States to favor businesses and if it's not profitable for the company and well let's go with business. So I would say use the European standards. They are less likely biased toward business.

The other thing I would like to see the Public Service Board do is consider long and short term effects of projects proposed. So, for example,

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CHAIRMAN VOLZ: Thank you. Bill Kaplan and then after that William Long.

if you have a field for solar panels and people don't

like those solar panels, 10, 20, 50 years down the

road you take them out plant corn if you want, but

with wind if you decide to use a mountain range for

your wind towers, it's gone and you can't get the

mountain back. It's gone and that's all I guess I

have to say. Thank you.

MR. KAPLAN: Hi. My name is Bill Kaplan K-A-P-L-A-N and you have heard a lot of stories here tonight and I remember seeing photographs when the first wind towers were going up and being constructed and I think that mistakes, abuses have been made and it's caused this big debate, this big conflict among citizens. We have heard neighbors. We have heard relatives going against each other. I just think that what's happening here is we have a pendulum and it's swinging back and forth trying to get to a place that makes sense for everybody trying to meet this compromise. Whether everybody in the end is happy is probably not the case, but we do need to do something. The earth has needs. We need to solve this.

One of the concerns I have about the

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current sound rule is it -- as written it does not make distinctions between industrial wind and small scale wind, and I think that there are enormous orders of magnitudes difference when you look at those and you try and apply the same standards to each. You have, you know, it's the airplane going over on a windy day you can't hear it. On a quiet day you hear it. If the mountaintop is above you, you hear it. What happens in small scale wind, and you have seen it, you know, small wind has been People have put them right next to their own homes by choice, and I think it's important to look at it. It's different because they are in the same sound environment as the neighbors and that everything is scaled down, and so I would ask that will there be a distinction in the sound levels and the height levels and the buffers for small scale. It hasn't -- it's been said here that it hasn't been successful yet it exists. It may not be economically successful yet, but I think that part of the charge the Vermont Legislature gave in some of the proposals to the Public Service Board was to help developing technology, and I think it's really important to not cast the dolphins with the tuna on this. Let's let the two evolve differently. Thank you.

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CHAIRMAN VOLZ: Thank you. William Wall and then after that Maureen McCracken.

MR. WALL: I spoke at Lowell.

CHAIRMAN VOLZ: Thank you. Maureen McCracker then -- I know you spoke at Lowell. Skip Landon Mariano. down.

MS. McCRACKEN: Hi. Maureen McCracken Waterbury M-C-C-R-A-C-K-E-N. I also work at Northern Power with Chris and I hadn't planned to come up and say something, but just really briefly I started working for Northern just this year and I was so excited to be in the renewable energy field and excited to be working with such a diverse group of colleagues. We have people in manufacturing, engineering, people that work at desks like me. really great to be in that kind of company right here in Vermont, and you know we actually have clients around the world that put turbines in. They are small businesses. They are schools. They are They are not big corporations. I actually was just at an open turbine day last week in Buffalo and it was held by a small business owner. He owns a turbine so that he can save money and so that he can have -- take back a little bit of independence in his energy costs, and so these are the people that we

need to be thinking of as well, and these kinds of applications are -- would be shut down from this kind of regulation. Not only -- not just putting aside even the sound level, there's the regulatory compliance issues that would just add costs and make it really difficult.

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I was thrilled today to be able to watch three turbines get shipped out of our Barre facility. So exciting. What was not so exciting is that container was not going anywhere in Vermont, and my point there is to say it's not like it's really easy to develop wind in Vermont in the first place. people who -- not just because of compliance. People who develop these projects they think long and hard about it. They put a lot of thought into it and there is a lot of compliance as well. So I don't think that it's not like we're trying to stop some major floodgates or whatever, and I just implore you to think about jobs here in Vermont, not only in Barre, but we have business partners in Vermont that could benefit from more wind development as well as farmers, small businesses. Again most of our clients they think about -- they are fiercely independent. They want to save money. Those are Vermont values and I hope you can consider that when you go through

this rule and what you're going to do next.

CHAIRMAN VOLZ: Thank you. Landon Mariano.

MR. MARIANO: Hi there. My name is

Landon L-A-N-D-O-N M-A-R-I-A-N-O. So like my

colleagues you heard from I work at Northern Power

Systems in Barre. I'm a trained research scientist

and an engineer. Not from Vermont. My wife and I

actually moved up to Cabot a couple months ago and it

was hard pressed to find a job in my field that use

my kind of skills, and Northern Power Systems is one

of the few places that was able to take me on and use

skills I developed my education to and put it to good

use towards a cause I believe in and a cause that I

think is going to help save the direction of our

country and our world in terms of climate change and

renewable energy.

That being said, the people that I work with are Vermonters. They were born here. They were raised on the lake so -- raised on the lakes, raised in the green hills, and the 35 dBA restriction that's planned on being implemented here would not only cripple Vermont's future for wind energy, but would help take away the jobs from these people that I work with everyday from 9 to -- 6 in the morning until 4

in the afternoon. Hard working down to earth people, and would make it difficult to bring people like me from out of state to come in and find these high paying jobs that are able to help support a family.

That's about it.

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CHAIRMAN VOLZ: Thank you. Next we would like to hear from and Robin Clark. We'll come back.

BOARD MEMBER HOFMANN: She spoke in Lowell. You both spoke in Lowell. Ms. Clark spoke in Lowell.

MS. COMBS: Lynette Combs L-Y-N-E-T-T-E C-O-M-B-S. I am just a private citizen living right here in Montpelier. We all have our reasons for being here, though, and my reason main reason for being here is because I grew up in eastern Kentucky and I know what it's like to have your environment destroyed. I'm only going to repeat basically two points. One the very well spoken gentleman from Scotland said it so well. We do not live in a vacuum. We have to make choices. What we want to do is make the most environmentally benign choices.

I believe wind power is much, much more benign than burning fossil fuels and extracting fossil fuels. The other thing is that I believe you

as the Public Service Board should have two sets of 1 regulations; one for so-called industrial wind 2 3 projects and another one for those smaller scale wind projects. I came to the very interesting 4 5 presentation this morning and heard different people 6 speak about very different issues of those two types 7 of installations, the smaller scale being such that individuals use on farms, they are more easily sited, 8 9 but the noise levels are received in a much different 10 way than so-called industrial wind really comes under. It's a big, big production, maybe probably 11 12 more -- subject to more regulations, but I would also 1.3 urge not to change the db level to 35 because that 14 would eventually -- it would be end of wind power in 15 I think we have the chance to be leaders in 16 green energy. We need all the green energy we can 17 get everywhere in the world and we don't want to be 18 the cause of suffering in other parts of the country. 19 Thank you.

CHAIRMAN VOLZ: Thank you. Next we would like to hear from Eric Brattstrom. After that we can hear from Mr. Ballek.

MR. BRATTSTROM: Hi. My name is Eric

BRATTSTROM. I'm from Warren with the energy

committee in Warren. We also were managing the solar

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farm in Waitsfield, my wife and I. About five years ago Bernie Sanders invited the Ambassador from Denmark to the Unitarian Church in Montpelier and he basically embarrassed the audience by telling us all the things that Denmark was doing for decades with wind and solar and basically making the country fossil fuel free, and they have only done better since that time, and Vermont has caught up a little bit, and after he was finished talking about wind power, et cetera, I asked him about wildlife and he asked me if I had a cat and I asked him why a cat. Cats kill so many more birds than turbines ever could. Don't worry about it. Wildlife is -- as much as you really should worry about wildlife, but worry about the right thing. Worry about wildlife in the right way.

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Global warming is going to destroy us in our life if we don't do something about it. He also talked about decible levels and he said they seem to be pretty sane even after decades of wind generation. He also talked about the landscape and he asked me if I've ever driven on Route 100. If you're worried about a wind turbine on the horizon and the sound it makes and you basically have something that's moving, that's reasonably small compared to 250 miles of

power lines on Route 100 which is where all our tourists come up, and so the basic premise that wind turbines are noisy, they destroy anecdotally at least people's lives, Denmark shows us that is not the case.

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About a year ago I spoke to the new

Ambassador from Denmark and it seems like they must
have their act together because he gave me the same
story. I think the main thing we could worry about
here is not to hurt wind generation, and I think if
we lowered the level too much let's keep -- see what
Denmark has done instead of reinventing the wheel.
They have already done the testing for us. Thank
you.

CHAIRMAN VOLZ: Thank you. Next up is Andrew Shapiro. Mr. Balleck.

MR. BALLECK: I'm Keith Balleck. I live in Sheffield B-A-L-L-E-C-K and I just want to say for starters comparing these -- the noise levels to washing machines, cars going down the road, driver, whatever, there's no comparison. This is a throbbing pulsating sound, reverberates through the walls.

It's come -- comes up through the ground, the terrain. I probably have a lot more experience than some of these people here tonight because I spend a

lot of time around some of the wind projects in

Sheffield and Lowell and I'm going to read from here.

I mean as most people probably know by now the

current sound standards are inadequate and there is

no setback standards. If there are resident

dwellings near a protective turbine site, a protected

site, the current standard or lack of were written by

the wind industry. So be it that's where it goes.

There really is no setback.

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The lobbyist non-profit advocacy groups worked hard to speed up the process. That's why the projects are sited with such recklessness at this point and that's why there's such disregard for humans and the environment and wildlife habitat. Right now we're in a position to learn from these colossal mistakes and the damage that has been done. Setback standards needs to start at the property line and be a mile and a half from that point.

The new proposed noise standards they are in an improvement, but should be stricter for rural areas and areas where the terrain enhances the noise level, and as you know the World Health Organization I believe they recommend 30 decibels. Before these industrial projects were built people were told by proponents there wouldn't be any noise

issues. It would be no louder than a refrigerator or car. Then people were told it was all in their heads, they should just suck it up, they were probably just against wind towers, and well there's a

pattern of deception.

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People were also told it would decrease Vermont's carbon emissions. Wrong again. something which is supposed to help fight climate change. The Federal Trade Commission and State Attorneys General Office warned project owners that it was false tiding because renewable energy credits were sold to other states allowing the states to continue to burn fossil fuels. In fact, some of the fossil fuel companies own some of these wind projects so they are kind of helping themselves. Vermonters were also told projects were good for the environment while the construction of these facilities damaged the very attributes that helped nature cope with extreme weather events. They take away the mountains' ability to absorb all this damage that has been caused by clearsutting, blasting vegetation removal along with the soil, paving over with stay mat, spraying of toxic herbicides on the ridgelines to fight invasive species that were brought in by Invasive plant species resulting then construction.

in aquatic plant die-off. Iron seeps also seeping out of the level spreaders which is supposed to control the runoff. These iron seeps they are not working. The iron seeps are coming out of the soil, lowering the PH, and they are killing off more plant life.

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CHAIRMAN VOLZ: Your three minutes are up.

MR. BALLEK: Okay. I was just going to say the failing of these also is call stream diversion. Wetlands are drying up, and if anyone really wants to know what's going on, don't take the company tour. Go up in some of these mountains yourself and look and see what's really going on. We need to learn from our mistakes here, and I was just going to say this deception has been driven by politics and corporate money, and we've done enough damage to the ridgelines. Let's do something else. We've got enough industrial wind in the mix already.

CHAIRMAN VOLZ: Thank you. Now I'm going to come back around to people who have also spoken at the other hearings. So Dustin Lang, did you want to add any comments.

MR. LANG: I didn't sign up.

CHAIRMAN VOLZ: William Wahl.

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MR. WAHL: I'm William W-A-H-L. I live on Kidder Hill Ridge. I'm a Connecticut resident. As of last year I moved up here. I still work in Connecticut until next year, but I've been coming here for 35 years and it's -- I want to retire here and see the beauty of everything. I mean I look out my window and see Sheffield which I mean it's far away. It's not that bothersome. I'm not against renewable energy, but I am against putting them too close to people's properties which is their proposed one on Kidder Hill Ridge. That's why I started studying all this stuff and gotten into all this.

The only person -- I think they are putting them in Swanton. The other lady -- I'm not sure if she's still here -- said she's putting them right next to her own house. She's willingly doing that, but it seems to me that towns or people should have say have far. So I support obviously 5,000 feet which I think putting it that far away is going to help with the decibels. Everyone is talking about sound and all that, but a lot of the people that are saying they are for it don't realize that it's not just the hearable sound. I don't know if they are doing their research or just avoiding it or I just think they don't know enough that the low sound for

people. So I think pushing in the state LED bulbs would be a more even incentive for people. I think would help more than a lot of some of the projects. Even when new heating equipment is put in put a standard to a certain efficiency.

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So I just strongly support the setback. I think it would immensely help people and it's not going to shut the whole wind industry down. It's just going to help people from owners, taxpayers, that are being forced right now with projects too close. So I strongly urge you to help us with the setback at least. I appreciate it. Thank you.

CHAIRMAN VOLZ: Thank you. If Christine Lang would like to speak. We would be happy to hear from her.

MR. LANG: I'm Christine Lang. You know I heard a lot of people talking today saying how these new rules of yours are going to stop wind in Vermont. I don't think that's true at all. I think the new rules are a step in the right direction. I think that's what the Legislature asked you to do and because they knew there was a problem. The only reason we're here is because there's a problem with the existing wind project sites. If everything was going fine at all the wind project sites, we wouldn't

be here. You know everything would be good, and someone commented that well there's only four people complaining in Georgia. So you have four people and they are complaining in Georgia and there's actually more, but anyway so you don't go and put bigger turbines closer to a whole lot more people in Swanton. There's 130 people within a mile. That's more people than what's anywhere else.

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So the setback rule makes perfect sense. You put the setback rule in, the developers can work with the neighbors and put in a project that can work for everybody. Something smaller, whatever it takes, but that's -- that rule, you know, is going to bring about collaboration and we don't have that right now. Right now it's just, you know, put whatever they want up there and, you know, all day today they are talking about all the ways to measure sound and all of that. It's so complicated and the setback helps take some of that complication out. You have got that rule. You then work with the neighbors and you figure out what you can fit, what can work in there. And the other thing, you know, they talk about there's people that talk about how these people are making it up when they are complaining about the problems with the wind turbines and the noise, and

it's not -- it's like other people said it's not like 1 any other noise. It's all different kinds. 2 3 it up in Georgia. I've been up in Georgia and felt it. My father gets seasick and I don't get seasick. 4 5 So I'm on a boat and he's complaining because he's 6 getting seasick. Am I going to ridicule him? 7 fine so you're not having a problem, and that's what 8 people do to these people who suffer from the wind 9 turbines. They are like we're fine, we're a mile 10 away, I don't feel them, I'm fine so you don't 11 matter, and I don't think that's appropriate. So I 12 will really appreciate your new standards and I hope 1.3 you stick with them. Thank you. 14 CHAIRMAN VOLZ: Thank you. I have three 15

CHAIRMAN VOLZ: Thank you. I have three people who spoke already before. We're running out —— we only have until 9:30. So Sally Collopy, Robbin Clark, and Giselle Chevalley. Can't give you three minutes. One or two minutes. Sorry you spoke once. We have your transcript of your previous time.

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MS. COLLOPY: Well this is totally different.

CHAIRMAN VOLZ: That's fine. We only have this building until 9:30.

MS. COLLOPY: Sally Collopy from Fairfield. So I've been in this fight, which is what

1 it is, for two years. It's ugly, divides community, 2 friends, and even family, and I'm tired of the lies 3 the industry keeps spouting. I'm happy the Public Service Board has proposed new standards. Please 4 5 don't be influenced by the misrepresentations. For 6 instance, REV's recent two page flyer uses a quote 7 from Linda Barrows from 2014. Truth is Barrows sent 8 another letter on July 5, 2016 asking them to never 9 use that 2014 letter again. They lied to them about 10 the reasons for writing it. It was supposed to help 11 them learn why the residents -- some residents are 12 bothered more than others, not to use these letters 1.3 against other neighbors. The Barrows live one mile 14 away from Georgia Mountain Wind. They hear the 15 turbines and are bothered by the shadow flicker. 16 They stated while hunting on the Johnson's land 17 nearby they heard what sound like a hundred dryers. 18 They requested that instead of pitting neighbor against neighbor take the time to visit and live in 19 20 the shoes of the families, but that's not the message 21 that REV keeps putting out. And I was at the Lowell 22 noise hearing and heard more misrepresentation or 23 confirmations. Mr. Robert Alanzo (phonetic) stated 2.4 the turbines didn't bother him at all. Well guess 25 He's two miles away. Albert and Sarah Tatro

1 praised the turbines. After the Lowell vote it was 2 discovered they were being paid by GMP to work. 3 After the vote they stayed on the payroll and managed the towers and they live three miles away. Pam 4 5 Tatro, their daughter-in-law who spoke in favor, 6 lives one mile away or 1.9 miles away. Ted Fletcher 7 was already talked about. Hilary was already talked 8 being 2 miles and 4.4 miles away. Someone spoke 9 admitted they hear the turbines, but it helps the 10 economy. But that's what happens. They come in these small rural communities that don't have a 11 12 strong political voice to stand up to the community, 1.3 but knowing the truth empowers you and gives you that 14 voice and vote after vote has proven that, and at the 15 Morrisville Public Service Board hearing in 2014 residents testified the noise didn't bother them. 16 17 Again some were located 1.27 miles to 3 miles away. 18 Steve Mason again said he was three-quarters of a mile. He's 2.4 miles. 19

Georgia Mountain turbine neighbors said they weren't bothered over one to two miles away.

These are important details that we need to learn from where do these people live. What is the terrain like? How are they positioned in the prevailing winds? These are examples. You know I think these

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examples showed the wind industry proving our cause 1 2 -- our case actually. Industrial wind needs to be at 3 least one mile away from homes or further. We need the protective dBA levels of 35 Lmax outside and 30 4 5 Lmax inside. CHAIRMAN VOLZ: Sorry. I've given you 6 7 the full three minutes and we want to hear from other 8 people. Robbin Clark. 9 MS. CLARK: Robbin Clark R-O-B-I-N 10 I just have a couple quick -- actually I C-L-A-R-K. 11 have a question for the Board. I would like to know 12 who chose Lowell for the Lowell meeting? 1.3 CHAIRMAN VOLZ: I'm not sure what you're 14 talking about. The hearing on Tuesday who 15 MS. CLARK: chose that location? 16 CHAIRMAN VOLZ: I don't know offhand. 17 18 We had to work with -- our clerk works with the local community to find a location that will work for us. 19 20 MS. CLARK: Well I have to say it felt 21 to me as an opponent to the project that we needed a 22 neutral place. There were a lot of people that 23 wouldn't come to the meeting because they felt 24 intimidated by townspeople and I just think that --

CHAIRMAN VOLZ: Well we usually try to

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have them near the place where the project is going to go.

MS. CLARK: Well it could have gone to the Albany side of the mountain or some place that was a little bit more neutral.

CHAIRMAN VOLZ: Okay.

15 of the neighbors that MS. CLARK: spoke in favor of the project they all live way beyond one mile as we have heard previous. goes to support the one mile setback and I think that's a great idea -- a great standard. A lot of people don't come forward because they are intimidated. They don't complain because there's no enforcement. There's no follow through. There's no enforcement. Who do they complain to? A lot of people may not hear it because of the topography. live 1.62 miles from the project. I hear it rarely, but I've been at the Nelson farm. I've been on horseback over on Eaton Road and the noise has been horrible. So topography and location has a lot to do with it, and we have to remember that industrial size projects have industrial size negative impacts. We all can do something to support our own energy use on a smaller scale. Thank you.

CHAIRMAN VOLZ: Thank you. Giselle

Chevallay.

from other areas.

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MS. CHEVALLAY: My name is Giselle Chevalley. G-I-S-E-L-L-E C-H-E-V-A-L-L-A-Y. Just a few things real quick that I wanted to add that I heard reference to earlier. One of the comments that -- more than one comment actually made me think that it needs to be pointed out that the wind towers make noise around the clock. A lot of people make reference to loud trucks or certain other types of noises that we hear or some of us might hear and a lot of those things don't go around the clock. that is one point that needs to be made. And then as far as the jobs that they create a lot of the people that worked on a lot of the wind projects, including Lowell and Sheffield, were not local workers. of the jobs were brought in -- people were brought in

And then also another comment that I don't think was made that should be made some of the projects are underperforming, especially Sheffield and maybe Lowell some of the time. In any case I do agree with Robin that another location would have been nice other than Lowell. I know other people who might have gone too, but I guess they feel that there's an intimidation factor going on, but that's

all I have for now. 1 2 CHAIRMAN VOLZ: Thank you. According to 3 my records we have heard from everybody who signed So I want to thank everybody who signed up. 4 5 MR. WHITAKER: Very briefly the 6 Department is supposed to represent the public 7 meaning the human public. I would ask you to consider joining the Agency of Natural Resources to 8 9 represent the wildlife if we're going to fully study 10 CHAIRMAN VOLZ: We can't control -- you 11 12 have to talk to ANR about who they represent. 1.3 would like to hear from the woman --14 MR. WHITAKER: But if you deal with the 15 A-weighted standard -- I won't claim to recommend 16 whether it's 30, 35, 40, but if you deal with 17 unweighted, you will have real data to understand 18 what decible level. 19 CHAIRMAN VOLZ: I'm happy to hear from 20 you. 21 BOARD MEMBER HOFMANN: Are you Rebecca? 22 We are letting people who spoke in Lowell to speak 23 briefly. 2.4 MS. BOULANGER: Rebecca

B-O-U-L-A-N-G-E-R from Enosburg and I just want to

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say a couple of observations. I want to talk about decible levels and everything, but we -- I think as Christine pointed out one thing that's important is that it's not just about the audible sound. People do have different experiences with sound and all those things and they are kind of unexplainable. Some people can get car sick in ten miles and other people never get car sick. So it's very hard to understand and put that all together, but I think that as private citizens and as neighbors we have to be considerate of everybody, and as public officials I think that it's an obligation to -- in moving forward to do your best to protect safety and well being of all Vermonters. I mean if someone gets, for example, car sickness or motion sickness, get out of the car, you know, stay off the road, but what if this happens in your own home, what if you're sick all the time and it's in your own home. I mean that is an incredibly sad thing, and people say well what if you love your home for whatever reason and so I think we have to be very sensitive to that.

I would also like to comment I know it was mentioned in Lowell and this whole issue of how this is tearing our state apart. I mean it's the saddest thing in the world to know people in our town

and other towns and they feel such anger at each other about these issues. I mean it's just incredibly sad thing.

Finally, Vermonters are known for common sense. So I think some of the things that were said about compromise are a good thing, and one of the common sense things I would like to throw in perhaps, I don't think they are very brilliant, but just the idea of a setback rule is something that we can see all of the sound monitoring people talking about variables of sound and measuring sound. It's all very difficult and setbacks are something that people can see. There's something that you can tell it's either right or wrong as the project's going up.

It's not something that you have to deal with after the projects up. So I think a setback rule is a real common sense type of thing to do.

Finally, another common sense issue -this is my last comment -- and that is when we all
know how technology changes and how fast things
change and I think people remember those old TV -the great big gigantic TV things they had and ten
years later everybody is changing to the little guys.
The problem with wind turbines is that once they are
there they are there, and we don't hear all these

people complaining with health issues when it comes to solar panels or with hydro. How many complaints do you get from people about that? I haven't heard any. I have to admit I don't read the papers everyday, but you don't have all kinds of complaints about Vermonters about solar panels and hydro.

CHAIRMAN VOLZ: We have people who come out in opposition to solar projects.

MS. BOULANGER: What I'm saying at least those types of things can be changed. Wind turbines once they are up are hard to change. So thank you.

CHAIRMAN VOLZ: Thank you. I think we ever heard from everyone.

> (Whereupon, the proceeding was adjourned at 9:45 p.m.)

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1	<u>CERTIFICATE</u>
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5	I, JoAnn Q. Carson, do hereby certify that
6	I recorded by stenographic means the public hearing re:
7	Rule 5.700 at the Montpelier High School, 5 High School
8	Drive Street, Montpelier, Vermont, on May 4, 2017,
9	beginning at 7 p.m.
10	I further certify that the foregoing
11	testimony was taken by me stenographically and thereafter
12	reduced to typewriting, and the foregoing 104 pages are a
13	transcript of the stenograph notes taken by me of the
14	evidence and the proceedings, to the best of my ability.
15	I further certify that I am not related to
16	any of the parties thereto or their Counsel, and I am in
17	no way interested in the outcome of said cause.
18	Dated at Burlington, Vermont, this 8th day
19	of May, 2017.
20	
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23	JoAnn Q. Carson
24	Registered Merit Reporter

Certified Real Time Reporter

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